

School, has very kindly carried out the bacteriological experiments upon which these results largely depend.

LAWRENCE J. HENDERSON.
WOLCOTT GIBBS MEMORIAL LABORATORY,
HARVARD UNIVERSITY

A MICROSCOPIC TRAP

WHILE examining a very rich culture of Protozoa, recently, I saw a living animal caught in the smallest trap that I have ever heard of, about $1/13$ mm. in length. The animal was a small Infusorian, apparently *Colpoda cucullus* Mül., as well as could be determined in its cramped position in the trap. The trap was an empty shell of a small species of *Arcella*.

The Infusorian had apparently entered the opening of the empty test and then, after the manner of a fish in a trap, kept swimming around and around the periphery of its prison, thus never coming to the centrally placed opening. I watched it pretty constantly for an hour and a half and it apparently never ceased, for more than a second at a time, its

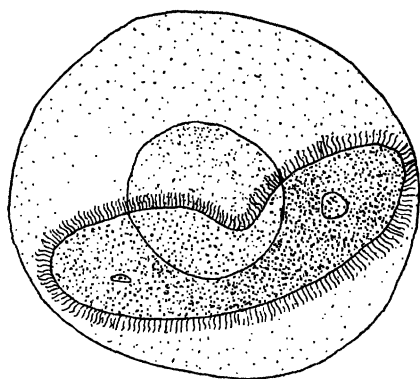


FIG. 1. A small Infusorian trapped in the empty shell of a fresh-water Rhizopod, *Arcella*. Camera lucida; $\times 630$.

forward or backward motion, except that, occasionally, it halted its progressive movement and whirled around rapidly, at a rate of 100 per minute, upon its median transverse axis.

After being under observation for an hour and a half it suddenly became quiet, and, but for the contraction of its vacuole about every

25 seconds, it seemed to be dead. Then it suddenly resumed its swimming and whirling motions, which were continued, with occasional resting periods, till observations ceased at the end of the day, $2\frac{1}{2}$ hours from the first observation.

The slide had been sealed with oil to prevent evaporation of the water, so that the next morning the culture was in good condition, but the prisoner had escaped, during the night, from its trap.

The figure is a camera drawing, showing the animal in the trap, bent to the right, and indented on that side.

ALBERT M. REESE

WEST VIRGINIA UNIVERSITY

A NIGHT RAINBOW

A MOST wonderful display of aurora borealis was visible on Mount Desert Island last night and had the moon not been at first quarter the brilliancy of the display would undoubtedly have been still greater. It had its base on a long, dark, unbroken band abutting on the northern horizon and shot upwards toward the zenith in innumerable streamers of vast reach, lengthening and shortening and shifting like the beams of a gigantic searchlight. Suddenly at about 10:40 P.M. a band like a gray-colored rainbow darted across the heavens near the zenith, passing from northwest to southeast and ending at a point near but not at the horizon. Though it may be common I have never seen the aurora span the heavens in that fashion. It looked like a vast single-span bridge. Beginning west of Arcturus it passed midway between Lyra and Aquila and ended far down in the southeast. At its midpoint overhead it was about as wide as the line joining the three conspicuous stars of Aquila. It seemed to be lower than the firmament, creating the impression of pulling the sky downward and giving a limit to space. Unlike the streamers first seen it did not suggest a searchlight but rather a band of delicate gray veiling, shining, yet not luminous—a night rainbow. It was densest near the zenith but even there the stars were visible through it.

For about thirty minutes little change could

be noticed in it, then it broke up lengthwise and crosswise, moving at the same time still nearer the zenith. A few moments later short parallel streamers began to shoot out from it at right angles and in a northerly direction giving the appearance of the prongs of a crown. Thereafter the long gray bow gradually vanished and in its place appeared irregular small grayish cloud-like masses moving swiftly to and fro across the zenith while short streamers continued to dart upward from the northern horizon.

DAVID RIESMAN

NORTHEAST HARBOR, MAINE,
August 16, 1918

SCIENTIFIC BOOKS

South America. By NELLIE B. ALLEN. New York, Ginn and Company, no date (1918?). Illustrated. 12mo. Pp. xv + 413.

This book seems to be one of a series of "geographical and industrial studies." The author is connected with the state normal school at Fitchburg, Mass., and the book is intended for use of "the children in our schools."

It is a book of good intentions written down to young people; and as young people are in the habit of accepting as the truth all the statements they find in print we feel at liberty to ask whether the children are being properly served. It contains a great deal of the stock information to be found in books of travel, circulars, reports and papers about South America, and mixed in with it are many things that might better have been omitted.

One of the most striking things about it is the air of artificiality and false enthusiasm that the author seems to think it necessary to maintain. It is difficult to keep up such high pressure activities, and, at the same time, to verify statements and to discriminate between trustworthy and untrustworthy authorities. The result is a demoralizing tendency towards exaggeration and sensation. For example, a pile of wheat twenty-five or thirty feet high is called a "mountain of wheat" (pp. 172-3); wheat fields are "a sea of wheat" (p. 171); trains "shoot in and out of tunnels" (p. 127); "cold storage plants are bursting

with tons of beef" (p. 162), and maté "becomes as solid as a rock" (p. 197).

Allowances may be made for such evident exaggerations, but unfortunately there are interspersed among them a long list of misleading half-truths, of which the following are examples: Bahia "is guarded by strong forts" (p. 86); "both men and women in Brazil smoke" (p. 86); maté "enables people to do their work and endure hardships without fatigue" (p. 195); "bread (is) made from manioc flour" (p. 201); "Brazil is larger than the United States" (p. 78), and the carriage drive over the crest of the Andes is a "dangerous trip" (p. 225).

Certain other statements are even less than half-truths: speaking of the Amazon region, she says the "forest is always . . . brilliant with flowers" (p. 106); as a matter of fact it is rarely brilliant with flowers. The sandstone reefs of Pernambuco and the coast are called "the great coral reef," and the "coral seawall" (pp. 82-83). It is said that petroleum has been discovered in Brazil (p. 89) (it has not); that "rich beds of . . . platinum are known to exist" in Brazil (p. 89) (they are not); and, among other things, "*pearls . . . are mined in various parts of the country*" (p. 89)!

A writer who makes such haphazard statements can hardly be expected to discriminate in regard to information of any kind. Thus we are told that Paraná means "in the Indian language, 'mother of the sea'" (p. 145); Dr. Theodoro Sampaio, an authority on the Tupi, says it means "like the sea" or "as big as the sea." At page 103 it is said that the wet season in the Amazon valley is from November to February; Carvalho's "*Météorologie du Brésil*," pp. 205 and 216, says it is January to May at Pará, December to June at Obidos, and January to May on the Negro.

The palm nuts used to smoke rubber in the Amazon region are spoken of as "the fuel he (the rubber cutter) likes best" (p. 119). It is not a matter of what he likes, but a demand of trade. From the beginning of the rubber industry to the present the rubber gatherers of the Amazon region have considered it nec-